

CLAIMS

1. Device to produce ice-cream applied to ice-cream producing machines of a domestic or semi-professional type which cooperates with a refrigeration unit and wherein there
5 is an outer container (11), a cover (26), an inner container (14) including an axial tube (18), a mixing blade (20) including a scraper fin (120), an evaporator coil (21) to remove heat from the inner container (14) and, through this, from the material present therein, the mixing blade (20)
10 being associated at the upper part, in axially removable manner, with a drive shaft (19) driven in rotation by drive means and inserted into said axial tube (18), wherein the evaporator coil (21) is located in cooperation with the bottom (17) of the inner container (14), through at least a
15 contact surface (27), characterized in that said mixing blade (20) is subjected to an axial thrust which keeps the scraper fin (120) pressed elastically at least on part of the bottom (17) of the inner container (14).
2. Device as in claim 1, characterized in that the mating
20 contact surfaces (27) of the bottom (17) and of the evaporator coil (21) are flat.
3. Device as in claim 1, characterized in that the mating contact surfaces (27) of the bottom (17) and of the evaporator coil (21) have a plurality of rings having a
25 geometric profile (wavy, V-shaped, etc.).
4. Device as in claim 1, characterized in that the mating contact surfaces (27) of the bottom (17) and of the evaporator coil (21) have an arc-type development.
5. Device as in claim 1, characterized in that the mating
30 contact surfaces (27) of the bottom (17) and of the evaporator coil (21) have a V-shaped development (inner or outer).
6. Device as in any claim hereinbefore, characterized in

that the diameter of the bottom (17) is in ratio to the height occupied by the ice-cream in the inner container (14) inside a range which goes from about 0.30 to about 0.50, advantageously from about 0.38 to about 0.42.

5 7. Device as in any claim hereinbefore, characterized in that the evaporator coil (21) comprises a coil element (24) incorporated in a material with a high coefficient of heat transmission.

8. Device as in any claim hereinbefore, characterized in
10 that the mixing blade (20) is conformed so as to thrust upwards the material present in the inner container (14).

9. Device as in any claim hereinbefore, characterized in that the drive shaft (19) has at its upper part a removable knob (32), cooperating with spring means (33) in order to
15 exert an axial thrust on the mixing blade (20).

10. Device as in claim 9, characterized in that the free axial travel of the mixing blade (20) is greater than the length of the circumferential connection segment.

11. Device as in any claim from 1 to 8 inclusive,
20 characterized in that the mixing blade (20) directly cooperates at the upper part with the cover (26) through a seating (34).

12. Device as in any claim hereinbefore, characterized in that the inner part of the mixing blade (20) includes
25 sealing means (28) cooperating with the axial tube (18).